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DIRECT INQUIRIES TO:
Frontline Medical Communications
283 - 299 Market St.
(2 Gateway Building), 4th Floor
Newark, NJ 07102
Telephone: (973) 206-3434
Fax: (973) 206-9378

Have a comment or feedback?

Email: jfp.eic@gmail.com

EDITORIAL

John Hickner, MD, MSc
Editor-in-Chief
jfp.eic@gmail.com

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The testing we order should help, not hurt

Ordering and interpreting tests is at the heart of what we do as family physicians. Ordering tests judiciously and interpreting them accurately is not easy. The Choosing Wisely campaign[1] has focused our attention on the need to think carefully before ordering tests, whether they be laboratory tests or imaging. Before ordering any test, one should always ask: Is the result of this test going to help me make better decisions about managing this patient?

I would like to highlight and expand on 2 problematic issues Kaminski and Venkat raise in their excellent article on testing in this issue of *JFP*.[2]

First, they advise us to know the pretest probability of a disease before we order a test. If we order a test on a patient for whom the probability of disease is very low, a positive result is likely to be a false-positive and mislead us into thinking the patient has the disease when he does not. If we order a test for a patient with a high probability of disease and the result is negative, there is great danger of a false-negative. We might think the patient does not have the disease, but she does.

One should always ask: Is the result of this test going to help me make better decisions?

There is a deeper problem here, however. Primary care physicians are notorious for overestimating disease probability. In a recent study, primary care clinicians overestimated the pretest probability of disease 2- to 10-fold in scenarios involving 4 common diagnoses: breast cancer, coronary artery disease (CAD), pneumonia, and urinary tract infection.[3] Even after receiving a negative test result, clinicians still overestimated the chance of disease in all the scenarios. For example, when presented with a 43-year-old premenopausal woman with atypical chest pain and a normal electrocardiogram, clinicians' average estimate of the probability of CAD was 10%—considerably higher than true estimates of 1% to 4.4%.[3]

To improve your accuracy in judging pretest probabilities, see the diagnostic test calculators in Essential Evidence Plus (www.essentialevidenceplus.com/).

Secondly, Kaminski and Venkat advise us to try to avoid the testing cascade.[2] The associated dangers to patients are considerable. For a cautionary tale, I recommend you read the essay by Michael B. Rothberg, MD, MPH, called "The $50,000 Physical".[4] Dr. Rothberg describes the testing cascade his 85-year-old father experienced, which led to a liver biopsy that nearly killed him from post-biopsy bleeding.

Always remember: Testing is a double-edged sword. It can help—or harm—your patients. JFP

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